

Description of Changes

The A002015.G1 45 Watt Power Amplifier is a replacement for the earlier 21-117-1 and 21-396-1 PAs used in the EAC-2000 AMPS repeater. The new amplifier is identical in form, fit and function, differing only in new identification labels on the outside of the PA.

Description of Operation

The input signal (-5 to +5 dBm) passes through variable attenuator U1, gain block U6, to class-A biased bipolar transistor Q3. That signal is further amplified by class-AB biased FETs Q4 and Q5. The output is passed through a single-junction circulator N1, and the rated 45 Watts is routed to the PA output connector.

A directional coupler on the output feeds closed-loop power control detector D1, with associated temperature compensation U4. The signal is amplified and compared to a reference from U9 by U10 and U11; the resulting agc signal is fed back to attenuator U1.

Four power levels can be set by external control through mux U5.

Internal PA temperature is reported to the EAC-2000 by U8.